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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/671,754

09/26/2003

Cosmin Iorga

1839-US

9346

7590

01/13/2005

Legal Department  
Teradyne, Inc.  
321 Harrison Avenue  
Boston, MA 02118

EXAMINER

WELLS, KENNETH B

ART UNIT

PAPER NUMBER

2816

DATE MAILED: 01/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/671,754

Applicant(s)

IORGA, COSMIN

Examiner

Kenneth B. Wells

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 9-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

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1. Applicant's election of invention I, claims 1-8 is acknowledged. Claim 9-12 are therefore withdrawn from consideration.

2. The drawings are objected to because in instant Fig. 4, the fan-out circuitry 30 is not labelled.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes

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are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The disclosure is objected to because of the following informalities: it is not clear from the description of Fig. 4 which elements form the "first programmable current mirror", the "second programmable current mirror", the "first programmable current mirror stage", and the "first fan-out current mirror stage". Applicant should amend the specification and/or drawings so that it is clear which elements of the invention correspond to these terms used throughout the specification and claims. Note that on page 6, of the specification, lines 2-3, it is incorrect to refer to CM1 as a fan-out current mirror, i.e., it is just a single FET in instant Fig. 4. Note the same problem with regard to the "second programmable current mirror" on line 26 of page 6.

Appropriate correction is required.

4. Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly

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point out and distinctly claim the subject matter which applicant regards as the invention.

It cannot be determined which elements of the invention are the "first programmable current mirror", the "second programmable current mirror", the "first programmable current mirror stage", and the "first fan-out current mirror stage". As noted above, applicant should amend the specification and/or drawings so that it is clear which elements of the invention correspond to these terms. It is also not clear which of these elements are part of the claimed current compensation circuit, and which are merely the intended use of the claimed invention. In other words, is the current mirror circuit recited on line 1 of claim 1 part of the current compensation circuit? It is also improper to define a path as a first current mirror driving a second current mirror (lines 2-3 of claim 1). It is also not clear what is meant by a transistor having a "channel length modulation factor". Transistors don't have "modulation factors", just dimensions and conductivity types. Applicant needs to define this more clearly in the specification and claims, or simply delete the language entirely. On lines 9-12, it appears to be incorrect to recite that the second channel length modulation factor is

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larger than the first channel length modulation factor, i.e., the specification at page 6, lines 26+ says the opposite is true.

As a minor point, on line 9 of claim 1, the word --stage-- should be inserted after "mirror". Also, on line 10 of claim 1, the word --second-- should be inserted after "a".

The same types of problems are seen in claims 5, 7 and 8.

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 5-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Kwan.

Note Fig. 2, where the recited "supply voltage current mirror" reads on the mirror formed by BJTs 44 and 46; the recited "first programmable current mirror" is all of the circuitry in Fig. 2 other than circuit 34; the recited "second programmable current mirror" is the combination of BJTs 48, 50 and resistor 52 (see column 6, lines 31-38 as

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to its programmability). Note further the size relationship between the transistors of the first and second programmable current mirrors. The recited "fan-out" current mirror stage is considered by the examiner to be merely the intended use of the claimed invention and has thus not been accorded patentable weight.

6. Claims 1, 2 and 5-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Klein.

Note Fig. 4, where the recited "supply voltage current mirror" reads on the mirror M6'; the recited "first programmable current mirror" is formed by the combination of FET M5 and circuit M9'; and the recited "second programmable current mirror" is formed by the combination of FET M4 and circuit M7'. As to the recited channel modulation factors between the transistors of the first and second programmable current mirrors, this limitation has not been given patentable weight because it cannot be determined what applicant means by this language, note the indefiniteness rejection above. The recited "fan-out" current mirror stage is considered by the examiner to be merely the intended use of the claimed invention and has thus also not been accorded patentable weight.

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7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over any one of the above-noted references.

It would have been obvious to one of ordinary skill in the art to form the current compensation circuits of the above-noted references on a single IC in CMOS for the well-known advantages associated with such (e.g., common response characteristics, etc).

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

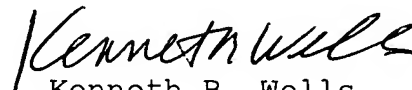
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth B. Wells whose telephone number is (571)272-1757. The examiner can normally be reached on Monday through Friday from 8:30am to 5:00pm.



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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy P. Callahan, can be reached at (571)272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kenneth B. Wells  
Primary Examiner  
Art Unit 2816

January 10, 2005